Rock Hill - Fort Mill Area Transportation Study

Transportation Conformity Analysis Report and Conformity Determination for the 2055 Long Range Transportation Plan and FY 24 - 33 Transportation Improvement Program

Adopted by RFATS Policy Committee May 16, 2025

This report was developed by the Rock Hill - Fort Mill Area Transportation Study (RFATS), in cooperation with the South Carolina Department of Environmental Services, South Carolina Department of Transportation, Environmental Protection Agency as well as other planning members.

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Introduction

The purpose of this report is to document compliance with the provisions of the Clean Air Act and Amendments of 1990 (CAAA) and the Infrastructure Investment & Jobs Act (IIJA) of 2021, and as amended in 2023. The conformity determination for the 2055 Long Range Transportation Plan (LRTP) and reaffirmation of the FY 2024-2033 Transportation Improvement Program (TIP) is based on a regional emissions analysis that utilized the transportation networks in those plans and emissions developed by S.C. Department of Environmental Services (SCDES). All regionally significant federally funded projects in areas designated by the United States Environmental Protection Agency (EPA) as air quality non-attainment or maintenance areas must come from a conforming LRTP and TIP.

Transportation conformity is required to be performed every four years as a component of the LRTP / TIP update (required by June 10, 2025). This conformity determination meets those requirements. As a point of reference, a past D.C. Circuit Court Ruling (i.e., SCAQMD v EPA) has effectively reinstated the continued applicability of the 1997 ozone standard, in addition to the 2008 ozone transportation requirements. This conformity determination satisfies both requirements of the 1997 and 2008 ozone standards.

The Metropolitan Planning Organization (MPO) is required by the Infrastructure Investment & Jobs Act § 1114; 23 U.S.C. 149 to make a conformity determination on any newly adopted or amended fiscally constrained LRTPs and TIPs. The intent of this report is to document the conformity determination for the 2055 LRTP and reaffirm the 2024-2033 TIP for the Rock Hill – Fort Mill Area Transportation Study (RFATS) MPO. Additionally, the United States Department of Transportation (USDOT); specifically, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), must make a conformity determination on the LRTPs and TIPs in all non-attainment and maintenance areas. In 2016 EPA officially reclassified RFATS as being in "attainment" for ground level ozone and changed its air quality status to a "maintenance area."

The MPO Conformity Determination for the 2055 LRTP and reaffirmation of the FY 2024-2033 TIP was approved on XXXX. By this action, the MPO demonstrated that the 2055 LRTP and FY 2024-2033 TIP are consistent with Section 176(c) of the Clean Air Act, the State Implementation Plan, IIJA § 1114; 23 U.S.C. 149, and 40 CFR Parts 51 and 93. The conformity demonstrations are documented by the MPO and SCDES in this report. It includes the regional emissions test comparison prepared for the 2055 LRTP and 2024-2033 TIP, demonstrating compliance with the applicable motor vehicle emissions tests.

This report also documents the interagency consultation process, public participation process, as well as the analysis methodology utilized to demonstrate transportation conformity.

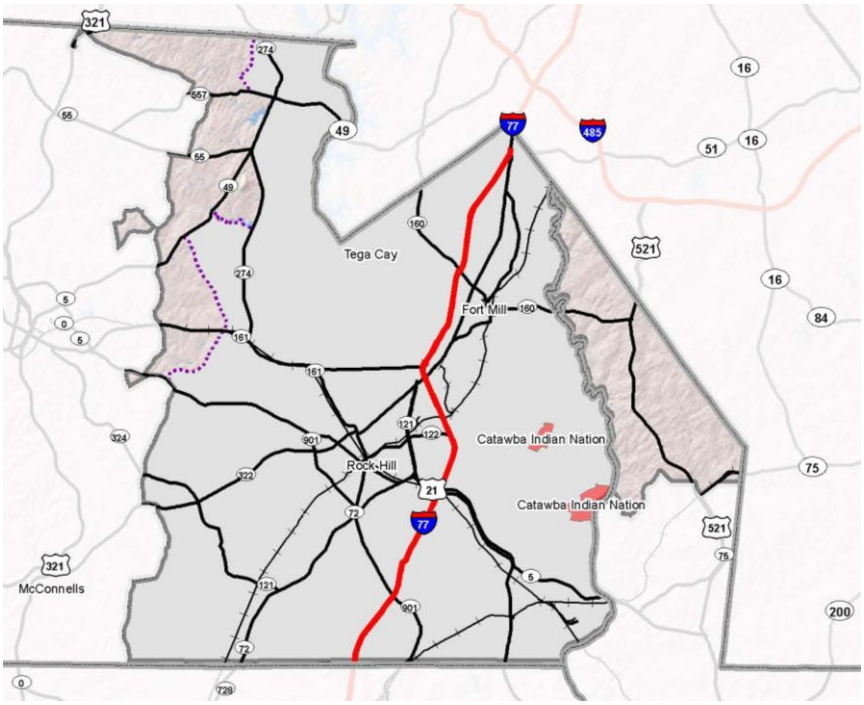
USDOT made its conformity determination on the 2055 LRTP and reaffirmation of the FY 2024-2033 TIP on XXXX. A copy of the letter and resolution approving the conformity determination are included in Appendix A.

The LRTP is a federally mandated, long-term planning document detailing the transportation improvements and policies to be implemented within the RFATS Study Area. In addition, it outlines the region's goals and objectives, as well as addresses transportation related issues and impacts over a minimum 20-year time horizon. The LRTP is updated on a four (4) year cycle. This 2055 LRTP is an update to the 2050 LRTP plan.

Air Quality Planning

On July 28, 2015, the EPA re-designated to attainment the North Carolina portion of the Charlotte-Rock Hill, NC-SC, nonattainment area for the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS), effective August 27, 2015. This was published in the Federal Register (80 FR 44873). On December 11, 2015, the EPA redesignated to attainment the South Carolina portion of the Charlotte-Rock Hill, NC-SC, nonattainment area for the 2008 8-hour ozone NAAQS, effective January 11, 2016, as shown in Appendix F. This was published in 80 FR 76865. The EPA determined that this area attained the 2008 ozone NAAQS by the applicable attainment date in order to satisfy the agency's obligation under CAAA section 181(b)(2)(A).

Figure 1 to the right depicts the RFATS Study Area, with the designated maintenance area highlighted in grey. It is important to note that the Catawba Nation, shown in red, while inside the boundary maintenance area is excluded from the maintenance area designation. Lastly, it is important to note that the maintenance area only covers a portion of the RFATS Study Area Boundary.



Latest Planning Assumptions

The planning assumptions and travel forecasts used in the Metrolina model to develop the 2055 LRTP and 2024-2033 TIP were also used in this conformity analysis. These are the latest planning assumptions as required in 40 CFR 93.110. Specifically, they include estimates of future population, employment, travel and congestion; and of course, are less than five years old.

The RFATS Study Area is a rapidly growing environment and is projected to remain so in the decades ahead. While mobility and roadway capacity needs tend to be high priorities during growth phases, RFATS has nonethess expanded its focus prioritizing network connectivity, safety, efficiency, and overall reliability for all transportation system users.

The RFATS Study Area is part of the Metrolina Regional Travel Demand Model (MRM), which continues to be used as part of the regional emissions analysis. The MRM is a regional travel demand model that was developed

for use in regional planning applications and air quality conformity. It covers all of Mecklenburg County (NC), Union County (NC), Cabarrus County (NC), Rowan County (NC), Lincoln County (NC), Gaston County (NC), Stanly County (NC), York County (SC), Iredell County (NC), Cleveland County (NC), and portions of Lancaster County (SC). Thus, the model covers an area larger than the RFATS Study Area, is larger than the maintenance area designation. Appendix B lists the projects that were included in this model for the purposes of the regional emissions analysis.

MRM20v1.0 is a simplified tour-based model with a 2021 base/validation year and horizon years of 2025, 2035, 2045, 2050, and 2055. 2026 is also modeled for the purpose of air quality conformity. MRM20v1.0 builds on the major model update process undertaken with the 2020 Census that included the collection of new travel behavior data as well as building on previously collected data. Tour frequency, destination choice, and time of day models are calibrated based on data collected in the 2020 Household Travel Survey.

Latest Emissions Model

Conformity analysis used the MOVES4.0.2 model. MOVES4.0.2 is the emissions modeling software used in the region's conformity determination, as it was with the 2055 LRTP Conformity Report.

For on-road mobile sources, the emissions reduction target is encapsulated into an area's motor vehicle emissions budget (MVEB), which identifies the allowable on-road emissions level at which the required air quality standards can be maintained. These budgets are, in effect, a cap on emissions representing the holding capacity of the area. While the MVEBs are based on the emissions inventory projection, they may not be identical. There is an established Motor Vehicle Emissions Budget (MVEB) for the RFATS maintenance area, shown in **Table 1**. Air quality modeling results from each analysis year were compared with the MVEB to determine if the standard can be maintained if the proposed transportation projects are implemented.

Table 1 – RFATS Maintenance Area Motor Vehicle Emission Budgets (MVEBs)		
Year	**NOx, kg/day**	**VOC, kg/day**
2014	9,112	3,566
2026	9,998	2,955

Off-Model Calculations

There were no off-model calculations performed as a part of this analysis.

Interim Emissions Tests

Since the RFATS maintenance area has an established Motor Vehicle Emission Budget, no interim emissions test was required.

Transportation Control Measures

As required in 40 CFR 93.113, the LRTP must provide for timely completion or implementation of all Transportation Control Measures (TCMs) in the applicable Statewide Implementation Plan (SIP), and nothing in the LRTP may interfere with the implementation of any TCM in the SIP. It is important to note that there are currently no TCMs applicable to York County approved in the SC SIP.

Interagency Consultation

The 2055 LRTP and FY 2024-2033 TIP and Conformity Determination have undergone interagency consultation as required in 40 CFR 93.112. Regular interagency consultation meetings involving RFATS, SCDOT, FHWA, SCDES, EPA, and York County have been held. Interagency consultation began in February 2, 2024 with monthly meetings (as appropriate) to discuss and agree upon the LRTP and TIP update schedule, model parameters, latest planning assumptions, horizon years, exempt projects, and regionally significant projects.

The Interagency Consultation Committee (IAC) selected horizon years for the emissions reduction test in accordance with the requirements of 40 CFR Part 93.106. Specifically, the selected analysis years are 2022, 2025 (interim year), 2026 (budget year), 2035 (interim year), 2036 (interim year), 2045 (interim year), and 2055 (plan horizon year).

The IAC determined exempt projects using Table 2 of 40 CFR Part 93.126 and Table 3 of 40 CFR 93.127. The IAC defined regionally significant projects using the definition of regionally significant projects in 40 CFR Part 93.101.

A summary of principal discussion points / responses, along with any written agency comments are provided in Appendix D.

Public Participation

The 2055 LRTP and FY 2024-2033 TIP were reviewed by the public in accordance with RFATS Public Participation Plan. This Conformity Determination Report was made available for a 30-day public comment period as well as multiple public hearings / meetings to consider and provide comments. Copies of citizen comments and agency responses to them are attached to this report in Appendix E.

Financial Constraint

The 2055 LRTP and FY 2024-2033 TIP are fiscally constrained in accordance with 40 CFR 93.108.

Finding of Conformity

The Rock Hill – Fort Mill Area Transportation Study finds that the 2055 LRTP meets the conditions described earlier in this document and thus conforms to the intent of the Clean Air Act and the requirements of 40 CFR 93. **Table 2** shows the results for each analysis year compared with the MVEB.

Table 2 – York County 8-Hour Ozone Maintenance Area Transportation Conformity Analysis

Year	Source	NOx		VOC	
		Emissions, kg/day	MVEB, kg/day	Emissions, kg/day	MVEB, kg/day
2022	MOVES4.0.2	4125.37	9,112	2160.78	3,566
2025	MOVES4.0.2	3245.34	9,112	1926.21	3,566
2026	MOVES4.0.2	2909.08	9,998	1727.06	2,955
2035	MOVES4.0.2	1244.55	9,998	1480.63	2,955
2036	MOVES4.0.2	1214.42	9,998	1486.3	2,955
2045	MOVES4.0.2	1057.23	9,998	1569.54	2,955
2055	MOVES4.0.2	1249.55	9,998	1861.56	2,955

Copies of the adopting resolution and conformity finding are attached in Appendix A.

Cross-Reference Index

Table 3 below charts RFATS compliance with applicable federal requirements.

Table 3 – Cross-Reference Index	
Conformity Requirement	**Page # or Appendix**
Formal findings of conformity	5
The purpose of this report is to comply with the requirements of the CAAA, FAST Act, and 40 CFR 51 and 93	1
The former and current classification of the air shed and the pollutants for which the air shed was classified as maintenance	1
The date the region was designated maintenance	1
The emissions expected from implementation of the long-range plan are equal to, or less than, the Motor Vehicle Emissions Budget	5
The adopted long-range plan is fiscally constrained (§93.108)	5
The latest planning assumptions were used in the conformity analysis (§93.110). The latest emissions model was used in the conformity analysis (§93.111)	3
The list of federally funded T.C.M. activities included. (§93.113)	5
Conformity determined according to §93.105 and the adopted public involvement procedures	5
Dates of the Technical Coordinating Committee reviews of the conformity determination and the recommendation	4
SIP emissions budget test or baseline comparison demonstrates conformity of the adopted long-range transportation plan	5
Listing of projects in each analysis year (highway)	Appendix B
VMT & Summary	Appendix F
Off-model analysis performed	N/A
Significant comments of reviewing agencies addressed by the MPO, or a statement that no significant comments were received	Appendix D
Emissions Calculations	N/A

Appendix A: Adoption and Approval Resolutions / Letters

RESOLUTION ADOPTED BY THE ROCK HILL - FORT MILL AREA TRANSPORTATION STUDY POLICY COMMITTEE APPROVING THE 2055 LONG RANGE TRANSPORTATION PLAN AND FY 2024 - 2033 TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Rock Hill - Fort Mill Area Transportation Study (RFATS), and the South Carolina Department of Transportation are actively involved in transportation planning for the Rock Hill - Fort Mill Study Area; and

WHEREAS, the Rock Hill - Fort Mill Study Area has an updated 2055 Long Range Transportation Plan and Transportation Improvement Program; and

WHEREAS, the RFATS Policy Committee is the duly recognized transportation decision making body for the 3–C transportation planning process in the Rock Hill-Fort Mill Study Area as required by 23 CFR Part 134; and

WHEREAS, the RFATS Technical Team and the Policy Committee for the Study Area have prepared the 2055 LRTP Update and reaffirm the 2024-2033 Transportation Improvement Program; and

WHEREAS, it is recognized that the proper movement of traffic within and through the Rock Hill - Fort Mill Study Area is a highly desirable element of the Long Range Transportation Plan for the orderly growth and development of the Study Area; and

WHEREAS, after the full evaluation of the 2055 Long Range Transportation Plan Update and FY 24 – 33 Transportation Improvement Program, the RFATS Policy Committee agrees it to be in the best interests of the Study Area to recommend plan adoption; and

WHEREAS, the public has had the opportunity to review and comment on the 2055 Long Range Transportation Plan and FY 24 – 33 Transportation Improvement Program through public meetings and document sharing.

NOW, THEREFORE, BE IT RESOLVED that members of the RFATS Policy Committee approve and endorse the updated 2055 Long Range Transportation Plan and reaffirm that the 2024-2033 Transportation Improvement Program meets conformity as prepared by the RFATS Technical Team and the South Carolina Department of Transportation on this 16th day of May, 2025.

BE IT FURTHER RESOLVED that the RFATS Policy Committee authorizes the Chair to sign this Resolution on behalf of all the membership.

ATTEST:

_____
David F. Hooper, RFATS Director

APPROVED:

_____
Guynn Savage, RFATS Chair

RESOLUTION FINDING THE ROCK HILL - FORT MILL AREA TRANSPORTATION STUDY (RFATS) 2055 LONG RANGE TRANSPORTATION PLAN AND FY 24 - 33 TRANSPORTATION IMPROVEMENT PROGRAM IN CONFORMITY WITH THE SOUTH CAROLINA STATE IMPLEMENTATION PLAN FOR AIR QUALITY

WHEREAS, the Policy Committee is the duly recognized decision-making body of the 3-C transportation planning process for the Rock Hill - Fort Mill Area Transportation Study; and

WHEREAS, the updated RFATS 2055 Long Range Transportation Plan meets the planning requirements of 23 CFR Part 450.322; and

WHEREAS, the 2024-2033 Transportation Improvement Program is a subset of the 2055 Long Range Transportation Plan; and

WHEREAS, the United States Environmental Protection Agency (USEPA) designated RFATS as maintenance for ozone on December 11, 2015; and

WHEREAS, the transportation conformity analysis of the RFATS 2055 Long Range Transportation Plan is based on the most recent estimates of population, employment, travel, and congestion; and

WHEREAS, the RFATS 2055 Long Range Transportation Plan is financially constrained; and

WHEREAS, there are no transportation control measures in the South Carolina State Implementation Plan (SIP) that pertain to the RFATS area; and

WHEREAS, the most recent vehicle emissions model was used to prepare the quantitative emissions analysis dated March 12, 2025; and

WHEREAS, those projects and programs included in the RFATS 2055 Long Range Transportation Plan contribute to annual emissions reductions as shown by the quantitative emissions analysis dated March 12, 2025

NOW, THEREFORE BE IT RESOLVED, that the RFATS Policy Committee reaffirms the FY 2024-2033 Transportation Improvement Program and finds that the RFATS 2055 Long Range Transportation Plan conform to the purpose of the South Carolina State Implementation Plan in accordance with the Clean Air Act as amended (CAAA), and the Infrastructure Investment & Jobs Act (IIJA) on this 16th day of May, 2025.

BE IT FURTHER RESOLVED, that the RFATS Policy Committee authorizes the Chair to sign this Resolution on behalf of all the membership.

ATTEST: **APPROVED:**

_____ _____

David F. Hooper, RFATS Director Guynn Savage, RFATS Chair

Appendix B: Project Description Table

Updated Draft 11/6/2024

2025 Metrolina Regional Model Build Network **EMISSION COMPARISON YEAR**

The 2025 No Build Network will use the 2015 Network and 2025 socioeconomc data.

(Additional projects below added to the 2015 Network and expected to be completed by end of 2025)

Regionally Significant	Exempt	Reasoning for Exemption	Non-Exempt	Outside of Non-Attainment Area	STREET NAME	PROJECT LIMITS	Project Description	RFATS STUDY AREA	PROJECT LENGTH (Mi.)	Existing	Proposed	FACILITY TYPE	Federal Functional Classification	Model Network Year	Pennies For Progress
X			X		US 21 North	Fort Mill Northern Bypass to SC 51	Road widening from two to five lanes along US 21 from the Fort Mill Northern Bypass to SC 51	Yes	2.1	2	5	C	Minor Arterial	2025	Yes
X			X		US 21 North	Fort Mill Northern Bypass to SC 160	Road widening from two to five lanes south along US 21 from the Fort Mill Northern Bypass to SC 160	Yes	2.8	2	5	C	Minor Arterial	2025	Potential PIV
X			X		Tega Cay - Gold Hill Connector	Gold Hill to SC 160	Construction of a new 2 lane roadway from Gold Hill Road to SC 160, thus bypassing the heavily congested SC 160 / Gold Hill Road intersection	Yes	0.5	N/A	New 2 lane	U	Collector	2025	Yes
X			X		Springhill Farm Road	US 21 to SC 51	Road widening from two to five lanes from US 21 to SC 51	Yes	0.7	2	5	C	Major Collector	2025	Yes
X			X		Fort Mill Southern Parkway (Ph. 2)	Dobys Bridge Road to SC 160	Construction of a new 2 lane road from Dobys Bridge Road to SC 160, thereby enhancing a by-pass route south of downtown area	Yes	2	N/A	New 2 lane	U	Minor Arterial	2025	Yes
	X	40 CFR 93.126			Eainport Road	Cherry to India Hook	Road widening from two to three lanes from Cherry Road to India Hook by adding dedicated turning lane	Yes	2.0	2	3	C	Minor Arterial	2025	Potential PIV
	X	40 CFR 93.126			SC 160	Gold Hill to Zoar Road	Road widening from two to three lanes from Gold Hill to Zoar Road to accommodate a dedicated turning lane	Yes	0.5	2	3	C	Other Principal Arterial	2025	Yes
X			X		SC 160	Gold Hill Road to NC State Line	Road widening from two to five lanes from Gold Hill Road to the NC State Line	Yes	1.0	2	5	C	Other Principal Arterial	2025	Yes
X			X		Celriver Road S-50 (Phase 2)	0.100 miles north of S-645 to SC 122	Road widening from two to five lanes on Cel-River Road just north of Eden Terrace Extension to Dave Lyle Blvd	Yes	2.1	2	5	C	Collector	2025	Potential PIV
X			X		Fort Mill Southern Parkway	I-77 to Holbrook Road	Road widening from two to five lanes from I-77 to Holbrook Road as part of the major bypass south of the downtown	Yes	3.0	2	5	C	Minor Arterial	2025	Potential PIV
X			X		SC 51	US 21 to NC Line	Road widening from two to five lanes on SC 51 from US 21 to the NC State Line	Yes	1.3	2	5	C	Minor Arterial	2025	Yes
	X	40 CFR 93.126			SC 72	SC 901 to Rambo Road	Road widening from two to three lanes SC 901 to Rambo to accommodate a dedicated turn lane	Yes	2.0	2	3	C	Other Principal Arterial	2025	Yes
X			X		New Roadway Segment #1 "Palmetto Parkway East"	New Interchange Connection to Paragon Way / Celriver	Construction of new three lane roadway on east side of new Palmetto Parkway Interchange	Yes	0.8	N/A	3	C	Major Collector	2025	
X			X		New Roadway Segment #2 "Palmetto Parkway West"	New Interchange Connection to Mt Gallant Road	Construction of new four lane roadway on west side of new Palmetto Parkway Interchange linking to Mt Gallant Road	Yes	0.8	N/A	4	C	Major Collector	2025	
	X	40 CFR 93.126			Mt. Gallant Rd.	SC 161 to Twin Lakes Road	Road widening from two to three lanes on Mt Gallant from Celanese to Twin Lakes Road to accommodate a dedicated turn lane	Yes	2.5	2	3	C	Minor Arterial	2025	Yes
X			X		Zoar Road Extension	Gold Hill Road to Zoar Road	Construction of new two lane roadway connecting Gold Hill Road to Zoar Road	Yes	0.8	N/A	New 2 lane	C	Collector	2025	Potential PIV
	X	40 CFR 93.126			Riverview Road	Eden Terrace to Celanese Road	Road widening from two to three lanes from Eden Terrace to Celanese Road to accommodate a dedicated turn lane	Yes	0.8	2	3	C	Collector	2025	Yes
X			X		Celriver Road S-50 (Phase I)	US 21 to 0.100 miles north of S-645	Road widening from two to five lanes from US 21 to just north of the Eden Terrace Extension (secondary entry / exit from Riverwalk)	Yes	0.9	2	5	C	Collector	2025	Yes
X			X		SC 557	Kingsbury to SC 49	Road widening from two to five lanes SC 557 from SC 49 to Kingsbury Road	Yes	2.1	2	5	C	Minor Arterial	2025	Yes
X			X		SC 274/279 (S-133 Pole Branch Rd)	SC 274 from Landing Pointe Dr to Pole Branch Rd	Road widening from two to five lanes on Hwy 274 from Landing Pointe Dr to Pole Branch Road approaching the NC State Line	Yes	0.6	2	5	C	Collector	2025	Yes
	X	40 CFR 93.126			SC 274/279 (S-133 Pole Branch Rd)	Pole Branch Road to NC State Line	Road widening from two to three lanes on Pole Branch Road to the NC State Line accommodating a dedicated turn lane	Yes	1.9	2	3	C	Collector	2025	Yes
X			X		SC 160	US 21 to Sutton Road	Road widening from four to six lanes as part of the SC 160 Interchange Reconfiguration Project. This begins on Sutton Road on the west and extends to US 21 on the east.	Yes	1.0	4	6	C	Other Principal Arterial	2025	Yes
	X	40 CFR 93.126			SC 160	Sugar Creek / Co. Line to Fort Mill N. Bypass	Road widening from two to three lanes from the Fort Mill Northern Bypass at SC 160 extending to Sugar Creek / County Line	Yes	0.8	2	3	C	Other Principal Arterial	2025	Yes
	X	40 CFR 93.126			McConnells Hwy.	Hockie to Falls Road	Road widening from two to three lanes from Hockie Blvd to Fall Road to accommodate a dedicated turn lane	Yes	2.1	2	3	C	Major Collector	2025	Yes
	X	40 CFR 93.126			Mt. Gallant Rd.	Dave Lyle Blvd to Anderson Road	Road widening from two to three lanes on Mt Gallant Road from Dave Lyle Blvd to Anderson Road accommdating a dedicated turn lane	Yes	0.3	2	3	C	Major Collector	2025	Yes
	X	40 CFR 93.126			Mt. Gallant Rd.	Anderson Road to Dave Lyle Blvd	Road widening from two to three lanes on Mt Gallant Road from Anderson Road to Dave Lyle Blvd	Yes	1.2	2	5	C	Major Collector		
X			X		Riverview / Riverchase Area Ph III	Automall Pkwy to Riverview Road	Construction of new two lane road between Automall Pkwy and Riverview Road as part of Riverview / Riverchase CMAQ Project	Yes	0.2	N/A	New 2 lane	U	Collector	2025	
	X	40 CFR 93.126			Sutton Road	US 21 to Sixth Baxter Crossing	Road widening from two to three lanes on Sutton Road from US 21 to Sixth Baxter accommdating a dedicated turn lane	Yes	2.2	2	3	C	Collector	2025	Potential PIV
X			X		****Eden Terrace	Anderson to Dunkins Ferry	Construction of new three road on Eden Terrace from Anderson to Dunkins Ferry	Yes	1	N/A	New 3 lane	C	Collector	2025	
X			X		****Riverview Rd. Extension	Eden Terrace to Mt. Gallant Rd.	Construction of new three lane road on Riverview Road Extension from Eden Terrace to Mt Gallant Road	Yes	1.2	N/A	New 3 lane	C	Major Collector	2025	No
X			X		****Corporate Connector	Cel-River & Commerce (Riverwalk Industrial)	Construction of new three lane road from Cel-River to Commerce Drive	Yes	1.3	N/A	New 3 lane	C	Major Collector	2025	No
X			X		****Galleria	Meeting and Cel-river @ Waterford Ext.	Construction of new three lane road on Galleria from Meeting Street to Cel-River / Waterford Extension	Yes	1.3	N/A	3	B	Minor Arterial	2025	No
X			X		****Galleria Extension	US 21 to Galleria	Construction of new two lane road on Galleria Extension from US 21 to Galleria	Yes	0.5	N/A	2	C	Collector	2025	No
	X	40 CFR 93.126			Ebenezer Road	Frank Gaston(Old Pointe) to SC 161 Celanese	Road widening from two to three lanes on Ebenezer Road from Frank Gaston to Celanese Road accommodating a dedicated turn lane	Yes	1.1	2	3	C	Minor Arterial	2025	Potential PIV

Exempt & Non-Exempt classification reflects different operational characteristics among roadway segments. For example, "exempt" refers to an existing road being expanded from 2 to 3 lanes thereby providing designated turning lane without necessarily adding general lane through movement capacity subjected to modeling requirements. Whereas, "non-exempt" indicates that the nature of a proposed improvement is subject to modeling requirements.

**** Projects Identified in I 77 Traffic Study & Privately Funded.

2035 Metrolina Regional Model BuildNetwork **EMISSION COMPARISON YEAR**

The 2035 No Build Network will use the 2025 network and 2035 socioeconomic data.

(Additional Projects added to 2025 network, expected to be completed in 2035.)

Regionally Significant	Exempt	Reasoning for Exemption	Non-Exempt	Outside of Non-Attainment Area	STREET NAME	PROJECT LIMITS	Project Description	RFATS STUDY AREA	PROJECT LENGTH (Mi.)	Existing	Proposed	FACILITY TYPE	Federal Functional Classification	Model Network Year	Pennies For Progress
	X	40 CFR 93.126			Mt. Gallant Rd.	Twin Lakes Rd. to Museum Rd.	Road widening from two to three lanes on Mt. Gallant Road from Twin Lakes to Museum Road to accommodate a dedicated turn lane	Yes	2.3	2	3	C	Minor Arterial	2035	
	X	40 CFR 93.126			White Street	McCammon to US 21 Bypass	Road widening from two to three lanes on White Street from McCammon to US 21 Bypass accommodating a dedicated turn lane	Yes	0.9	2	3	C	Principal Arterial	2035	
	X	40 CFR 93.126			N. White Street	US 21 to Old Nation Road	Road widening from two to three lanes on N. White Street from US 21 to Old Nation Road accommodating a dedicated turn lane	Yes	2.1	2	3	C	Collector	2035	
	X	40 CFR 93.126			N. Dobys Bridge Road	SC 160 to Fort Mill Southern Parkway	Road widening on N. Dobys Bridge Road from SC 160 to the Fort Mill Southern Pkwy accommodating a dedicated turn lane	Yes	2.0	2	3	C	Minor Arterial	2035	
X			X		S. Dobys Bridge Road	Fort Mill Southern Pkwy to Lancaster County Line	Road widening from two to five lanes on S. Dobys Bridge Road from the FM Southern Pkwy to the Lancaster County Line	Yes	3.7	2	5	C	Collector	2035	
X			X		Dobys Bridge Road (Lancaster Co.)	US 521 to York County Line	Road widening from two to five lanes on Dobys Bridge Road from US 521 to the York County Line	Yes	1.2	2	5	C	Collector	2035	
X			X		SC 72 (supplement to 2009 PPP)	SC 901 to Rambo Road	Road widening from three to five lanes on SC 72 from SC 901 to Rambo Road	Yes	2.0	3	5	C	Other Principal Arterial	2035	
X			X		Fort Mill Southern Parkway	Holbrook Road to SC 160	Road widening from two to five lanes on Fort Mill Southern Parkway from Holbrook Road to SC 160	Yes	2.0	2	5	C	Minor Arterial	2035	
X			X		US 21 North	Sutton Road to SC 160	Road widening from two to five lanes on US 21 from Sutton Road to SC 160	Yes	2.1	2	5	C	Minor Arterial	2035	Potential PY
	X	40 CFR 93.126			Munn Road	Harris St. to Fort Mill High School	Road widening from two to three lanes on Munn Road from Harris Street to Fort Mill High School accommodating a dedicated turn lane	Yes	0.5	2	3	C	Collector	2035	
X			X		SC 160	Rosemont Drive to Fort Mill N. Bypass	Road widening from three to five lanes on SC 160 from the Fort Mill Northern Bypass to Rosemont Drive	Yes	2.1	3	5	C	Other Principal Arterial	2035	
X			X		Fort Mill Southern Parkway	Railroad Bridge to Holbrook Road	Road widening from two to five lanes on the Fort Mill Southern Parkway from the Railroad Bridge to Holbrook Road	Yes		2	5			2035	Potential PY
X			X		John Ross Parkway	Dave Lyle to Mt Gallant Road	Road widening from two to four lanes on John Ross Pkwy from Dave Lyle Blvd to Mt Gallant Road to improve operating and safety conditions	Yes	0.5	2	4	C	Collector	2035	
	X	40 CFR 93.126			Springstown Road	US 21 to Dave Lyle Blvd.	Road widening from two to three lanes on Springstown Road from US 21 to Dave Lyle Blvd accommodating a dedicated turn lane	Yes	1.4	2	3	C	Collector	2035	
	X	40 CFR 93.126			Marvin Road	US 521 to Union County Line	Road widening from two to three lanes on Marvin Road from US 521 to Union County Line supporting a dedicated turn lane	Yes	1.3	2	3	C	Collector	2035	
	X	40 CFR 93.126			Possum Hollow Road	US 521 to SC 160	Road widening from two to three lanes on Possum Hollow Road from SC 160 to US 521 accommodating a dedicated turn lane	Yes	3.3	2	3	C	Collector	2035	
	X	40 CFR 93.126			Pleasant Road	Gold Hill Road to SC 160	Road widening from two to three lanes on Pleasant Road from Gold Hill to SC 160 accommodating a dedicated turn lane	Yes	5.1	2	3	C	Collector	2035	
X			X		SC 49	SC 274 to SC 557	Road widening from five to seven lanes on Hwy 49 from SC 274 (Hands Mill Hwy) to SC 557	Yes	2.1	5	7	C	Other Principal Arterial	2035	
	X	40 CFR 93.126			Harrisburg Road	SC 160 to NC State Line	Road widening from two to three lanes on Harrisburg Road from SC 160 to NC State Line supporting a dedicated turn lane	Yes	4.6	2	3	C	Collector	2035	
X			X		Fort Mill Northern Bypass	SC 160 to I-77	Road widening from two to five lanes on the Fort Mill Northern Bypass from SC 160 to I-77	Yes	4.0	2	5	C	Minor Arterial	2035	
X			X		India Hook Road	Celanese Road to New Bridge		Yes	2.8	2	5	C	Major Collector	2035	
	X	40 CFR 93.126			River Parkway	Banks Road to Dobys Bridge Road	Construction of new two lane road from Banks to Dobys Bridge Road to improvement network connectivity	Yes		N/A	2	C	Collector	2035	
	X	40 CFR 93.126			Cel-River / Red River Road	SC 122 to US 21 (moving south from SC 122)	Road widening from two to three lanes on Red River Road from Dave Lyle Blvd (SC 122) to US 21 accommodating a dedicated turn lane	Yes	2.2	2	3	C	Collector	2035	
X			X			****New Connector Across RR	Riverwalk Spine Rd & Galleria Blvd.	Construction of new three lane road between Riverwalk Spine and Galleria	Yes	0.3	N/A	3	C	Collector	2035	No
X			X			*Galleria to Manchester Flyover	Commerce to John Ross Parkway		Yes	1.5	N/A	4	D	Minor Arterial	2035	

Exempt & Non-Exempt classification reflects different operational characteristics among roadway segments. For example, "exempt" refers to an existing road being expanded from 2 to 3 lanes thereby providing designated turning lane without necessarily adding general lane through movement capacity subjected to modeling requirements. Whereas, "non-exempt" indicates that the nature of a proposed improvement is subject to modeling requirements.

**** Projects identified in I-77 Traffic Study & privately funded.

The 2045 No Build Network will use the 2035 network and 2045 socioeconomic data.
(Additional Projects added to 2035 network, expected to be completed in 2045.)

Regionally Significant	Exempt	Reasoning for Exemption	Non-Exempt	Outside of Non-Attainment Area	STREET NAME	PROJECT LIMITS	Project Description	RFATS STUDY AREA	PROJECT LENGTH (MI.)	Existing	Proposed	FACILITY TYPE	Federal Functional Classification	Model Network Year	Pennies For Progress
	X	40 CFR 93.126			Mt. Gallant Rd.	Museum Road to SC 274	Road widening from two to three lanes on Mt Gallant Road from Museum Road to Hawks Mill Hwy (SC 274) accommodating a dedicated turn lane	Yes	2.3	2	3	C	Minor Arterial	2045	
	X	40 CFR 93.126			Pleasant Road	Carowinds Blvd to Gold Hill Road	Road widening from two to three lanes on Pleasant Road from Carowinds Blvd to Gold Hill Road to support a dedicated turn lane	Yes	5.1	2	3	C	Collector	2045	
X			X		US 521	Jim Wilson Road to NC State Line	Road widening from five to seven lanes on US 521 from Jim Wilson to NC State Line supporting enhanced operating capacity and reliability	Yes	5.8	5	7	C	Other Principal Arterial	2045	
	X	40 CFR 93.126		X	Ridge Road	SC 557 to US 321	Road widening from two to three lanes on Ridge Road from SC 557 to US 321 supporting a dedicated turn lane	No	5.0	2	3	C	Collector	2045	
X			X		Henry Harris Road	Jim Wilson Road to Marvin Road	Road widening from two to five lanes on Henry Harris Road from Jim Wilson to Marvin Road augmenting capacity	Yes	4.3	2	5	C	Major Collector	2045	
	X	40 CFR 93.126			Whites Road	Fort Mill Southern Pkwy to JW Wilson Road	Road widening from two to three lanes on Whits Road from the Fort Mill	Yes	1.1	2	3	C	Collector	2045	
X			X		Dave Lyle Blvd Extension	SC 122 to US 521		Yes	4.5	N/A	5	F	Other Principal Arterial	2045	
	X	40 CFR 93.126			Eden Terrace	Bradley to Anderson	Road widening from two to three lanes on Eden Terrace from Bradley to Anderson Road accommodating a dedicated turn lane	Yes	1.5	2	3	C	Major Collector	2045	
	X	40 CFR 93.126			Barberville Road	SC 160 to Mecklenburg County Line	Road widening from two to three lanes on Barberville Road from SC 160 to the NC State Line supporting a dedicated turn lane	Yes	2.8	2	3	C	Collector	2045	
	X	40 CFR 93.126			Shelley Mullis Road	US 521 to Union County Lines	Road widening from two to three lanes on Shelley Mullis from US 521 to the NC State Line supporting a dedicated turn lane	Yes	2.5	2	3	C	Collector	2045	

Exempt & Non-Exempt classification reflects different operational characteristics among roadway segments. For example, "exempt" refers to an existing road being expanded from 2 to 3 lanes thereby providing designated turning lane without necessarily adding general line through movement capacity subjected to modeling requirements. Whereas, "non-exempt" indicates that the nature of a proposed improvement is subject to modeling requirements.

2050 Metrolina Regional Model BuildNetwork **EMISSION COMPARISON YEAR**

The 2050 No Build Network will use the 2045 network and 2050 socioeconomic data.
(Additional Projects added to the 2045 network, expected to be completed in 2050)

Regionally Significant	Exempt	Reasoning for Exemption	Non-Exempt	Outside of Non-Attainment Area	STREET NAME	PROJECT LIMITS	Project Description	RFATS STUDY AREA	PROJECT LENGTH (MI.)	Existing	Proposed	FACILITY TYPE	Federal Functional Classification	Model Network Year	Pennies For Progress
	X	40 CFR 93.126			Mt. Gallant Rd.	Museum Road to SC 274	Road widening from two to three lanes on Mt Gallant Road from Museum Road to Hawks Mill Hwy (SC 274) accommodating a dedicated turn lane	Yes	2.3	2	3	C	Minor Arterial	2045	
	X	40 CFR 93.126			Pleasant Road	Carowinds Blvd to Gold Hill Road	Road widening from two to three lanes on Pleasant Road from Carowinds Blvd to Gold Hill Road to support a dedicated turn lane	Yes	5.1	2	3	C	Collector	2045	
X			X		US 521	Jim Wilson Road to NC State Line	Road widening from five to seven lanes on US 521 from Jim Wilson to NC State Line supporting enhanced operating capacity and reliability	Yes	5.8	5	7	C	Other Principal Arterial	2045	
	X	40 CFR 93.126		X	Ridge Road	SC 557 to US 321	Road widening from two to three lanes on Ridge Road from SC 557 to US 321 supporting a dedicated turn lane	No	5.0	2	3	C	Collector	2045	
X			X		Henry Harris Road	Jim Wilson Road to Marvin Road	Road widening from two to five lanes on Henry Harris Road from Jim Wilson to Marvin Road augmenting capacity	Yes	4.3	2	5	C	Major Collector	2045	
	X	40 CFR 93.126			Whites Road	Fort Mill Southern Pkwy to JW Wilson Road	Road widening from two to three lanes on Whits Road from the Fort Mill Southern Pkwy to JW Wilson supporting a dedicated turn lane	Yes	1.1	2	3	C	Collector	2045	
X			X		Dave Lyle Blvd Extension	SC 122 to US 521		Yes	4.5	N/A	5	F	Other Principal Arterial	2045	
	X	40 CFR 93.126			Eden Terrace	Bradley to Anderson	Road widening from two to three lanes on Eden Terrace from Bradley to Anderson Road accommodating a dedicated turn lane	Yes	1.5	2	3	C	Major Collector	2045	
	X	40 CFR 93.126			Barberville Road	SC 160 to Mecklenburg County Line	Road widening from two to three lanes on Barberville Road from SC 160 to the NC State Line supporting a dedicated turn lane	Yes	2.8	2	3	C	Collector	2045	
	X	40 CFR 93.126			Shelley Mullis Road	US 521 to Union County Lines	Road widening from two to three lanes on Shelley Mullis from US 521 to the NC State Line supporting a dedicated turn lane	Yes	2.5	2	3	C	Collector	2045	

Exempt & Non-Exempt classification reflects different operational characteristics among roadway segments. For example, "exempt" refers to an existing road being expanded from 2 to 3 lanes thereby providing designated turning lane without necessarily adding general line through movement capacity subjected to modeling requirements. Whereas, "non-exempt" indicates that the nature of a proposed improvement is subject to modeling requirements.

2055 Metrolina Regional Model BuildNetwork **EMISSION COMPARISON YEAR**

The 2055 No Build Network will use the 2050 network and 2055 socioeconomic data.
(Additional Projects added to the 2045 network, expected to be completed in 2050)

Regionally Significant	Exempt	Reasoning for Exemption	Non-Exempt	Outside of Non-Attainment Area	STREET NAME	PROJECT LIMITS	Project Description	RFATS STUDY AREA	PROJECT LENGTH (MI.)	Existing	Proposed	FACILITY TYPE	Federal Functional Classification	Model Network Year	Pennies For Progress
	X	40 CFR 93.126			Mt. Gallant Rd.	Museum Road to SC 274	Road widening from two to three lanes on Mt Gallant Road from Museum Road to Hawks Mill Hwy (SC 274) accommodating a dedicated turn lane	Yes	2.3	2	3	C	Minor Arterial	2045	
	X	40 CFR 93.126			Pleasant Road	Carowinds Blvd to Gold Hill Road	Road widening from two to three lanes on Pleasant Road from Carowinds Blvd to Gold Hill Road to support a dedicated turn lane	Yes	5.1	2	3	C	Collector	2045	
X			X		US 521	Jim Wilson Road to NC State Line	Road widening from five to seven lanes on US 521 from Jim Wilson to NC State Line supporting enhanced operating capacity and reliability	Yes	5.8	5	7	C	Other Principal Arterial	2045	
	X	40 CFR 93.126		X	Ridge Road	SC 557 to US 321	Road widening from two to three lanes on Ridge Road from SC 557 to US 321 supporting a dedicated turn lane	No	5.0	2	3	C	Collector	2045	
X			X		Henry Harris Road	Jim Wilson Road to Marvin Road	Road widening from two to five lanes on Henry Harris Road from Jim Wilson to Marvin Road augmenting capacity	Yes	4.3	2	5	C	Major Collector	2045	
	X	40 CFR 93.126			Whites Road	Fort Mill Southern Pkwy to JW Wilson Road	Road widening from two to three lanes on Whits Road from the Fort Mill Southern Pkwy to JW Wilson supporting a dedicated turn lane	Yes	1.1	2	3	C	Collector	2045	
X			X		Dave Lyle Blvd Extension	SC 122 to US 521		Yes	4.5	N/A	5	F	Other Principal Arterial	2045	
	X	40 CFR 93.126			Eden Terrace	Bradley to Anderson	Road widening from two to three lanes on Eden Terrace from Bradley to Anderson Road accommodating a dedicated turn lane	Yes	1.5	2	3	C	Major Collector	2045	
	X	40 CFR 93.126			Barberville Road	SC 160 to Mecklenburg County Line	Road widening from two to three lanes on Barberville Road from SC 160 to the NC State Line supporting a dedicated turn lane	Yes	2.8	2	3	C	Collector	2045	
	X	40 CFR 93.126			Shelley Mullis Road	US 521 to Union County Lines	Road widening from two to three lanes on Shelley Mullis from US 521 to the NC State Line supporting a dedicated turn lane	Yes	2.5	2	3	C	Collector	2045	

Exempt & Non-Exempt classification reflects different operational characteristics among roadway segments. For example, "exempt" refers to an existing road being expanded from 2 to 3 lanes thereby providing designated turning lane without necessarily adding general line through movement capacity subjected to modeling requirements. Whereas, "non-exempt" indicates that the nature of a proposed improvement is subject to modeling requirements.

Appendix C: Emissions Calculation Spreadsheet and MOVES Input

York County, SC Maintenance Area 2055 LRTP Conformity Test March 2025								
		NOx			VOC			
Year	Source	2055 LRTP Emissions kg/day	2008 Ozone Std Maintenance Plan MVEB, kg/day	Budget Test	2055 LRTP Emissions kg/day	2008 Ozone Std Maintenance Plan MVEB, kg/day	Budget Test	
2022	MOVES4.0.2	*4125.37*	9,112	*pass*	*2160.78*	3,566	*pass*	
2025	MOVES4.0.2	*3245.34*	9,112	*pass*	*1926.21*	3,566	*pass*	
2026 (budget year)	MOVES4.0.2	*2909.08*	9,998	*pass*	*1727.06*	2,955	*pass*	
2035	MOVES4.0.2	*1244.55*	9,998	*pass*	*1480.63*	2,955	*pass*	
2036	MOVES4.0.2	*1214.42*	9,998	*pass*	*1486.3*	2,955	*pass*	
2045	MOVES4.0.2	1057.23	9,998	*pass*	*1569.54*	2,955	*pass*	
2055	MOVES4.0.2	*1249.55*	9,998	*pass*	*1861.56*	2,955	*pass*	
NOTE 1:	The MVEBs used are from the 1st maintenance plan; the 2nd maintenance plan has not yet been approved/adopted by EPA as of 03/07/2025.							
NOTE 2:	The MOVES runs used the same month (July only) and Meteorology data that was used for the 1st Maintenance Plan							

MOVES Technical Guide references and inputs/selections made for the MOVES analysis for the RFATS 2055 LRTP

Area to be modeled

York County maintenance area for the 2008 8-hour ozone standards (partial York County)

Model version

MOVES4.0.2

Scale

County

Calculation Type

Inventory mode

Motor Vehicle Emissions Budgets (MVEB or budget)

The budgets are from the 2008 Ozone Std Maintenance Plan.

2014 budgets:

- NOx 9,112 kg/day
- VOC 3,566 kg/day

2026 budgets:

- NOx 9,998 kg/day
- VOC 2,955 kg.day

Analysis Years

2022, 2025, 2026 (budget year) 2035, 2036, 2045, 2055.

Time Spans

- *For SIP and regional conformity analysis, hour should be selected for Time Aggregation Level.*
- *Users should choose the appropriate months for the pollutant being analyzed, i.e., the summer ozone season for NOx and hydrocarbons, or the winter CO season.*
- *Weekday data should be used for any inventory that represents a typical summer or winter day.*
- *To properly estimate emissions for a day, month or year, the user must select all 24 hours. (2.3, technical guide)*

Time Spans selections:

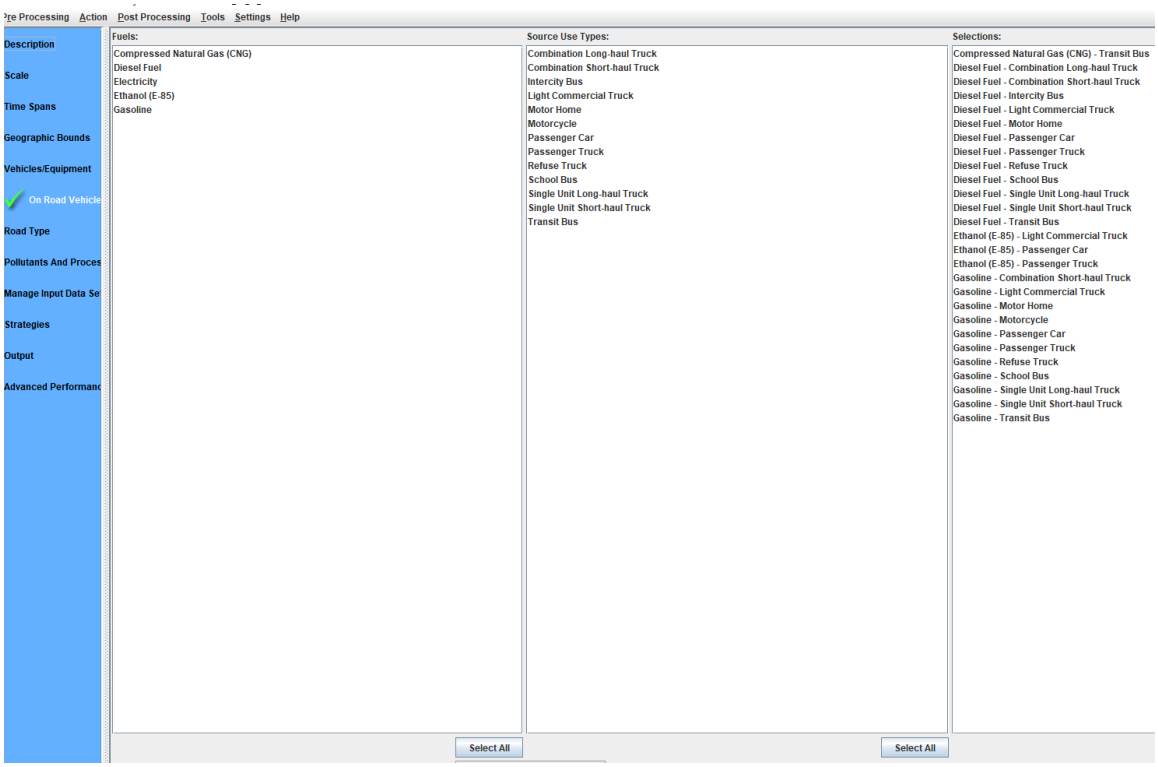
- Aggregation level: Hour
- Months: July
- Day type: Weekdays
- Hours: 24 hours

Vehicles/Equipment

For SIP and regional conformity analyses, users must select the appropriate fuel and vehicle type combinations in the On Road Vehicle Equipment panel to reflect the full range of vehicles that will operate in the county. In general, users should simply select all valid diesel, gasoline, ethanol (E85) and CNG (only

transit buses) vehicle and fuel combinations. Ethanol should be selected even if there is no E85 fuel sold in the area. Flex-fueled E-85 capable vehicles are a component of the vehicle fleet in every county in the U.S. and MOVES automatically assigns some VMT to these vehicles (3.5, technical guide)

The vehicle equipment selection includes all diesel, gasoline, ethanol (E85) and CNG vehicle and fuel combinations.



Road Type

All SIP and regional conformity analyses must include the Off-Network road type in order to account for emissions from vehicle starts, extended idle activity, and evaporative emissions (for hydrocarbons). (3.6, technical guide)

All road types (1,2,3,4,5) have been added.

Pollutants/processes

Processes in MOVES are mutually exclusive types of emissions and users must select all processes associated with a particular pollutant in order to account for all emissions of that pollutant. For example, there are 11 separate pollutant processes in MOVES for hydrocarbon emissions. All 11 of these processes must be selected to properly account for all hydrocarbon emissions from motor vehicles. (3.7, technical guide)

All processes for total gaseous hydrocarbons, non-methane hydrocarbons, VOC and NOx have been selected, except refueling emissions, since these are already captured in our area source inventory. (EPA is aware of this selection.)

Output Emission Detail

Output at the Hour level is recommended for Time unless the user is certain that emission results are not needed by time of day. (2.10.4, technical guide)

24-Hour Day has been selected.

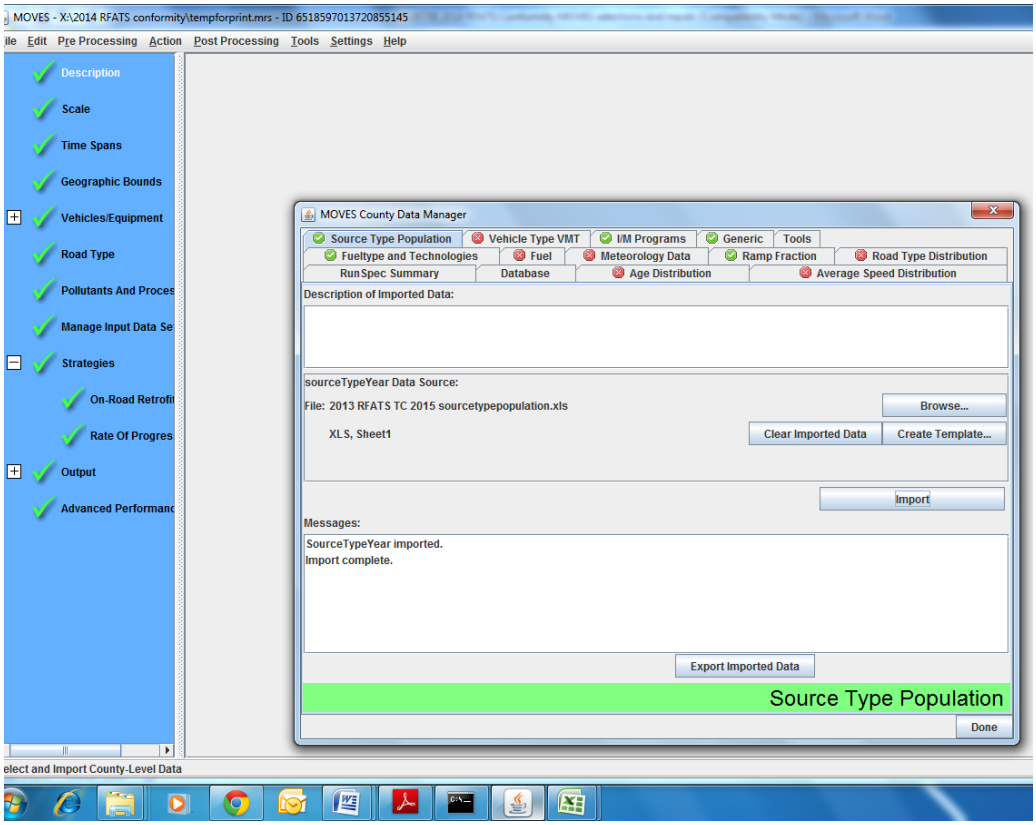
Units

Kilograms have been selected. Kg/day has been used since the RFATS Attainment Demonstration submitted in 2007.

Source Type Population

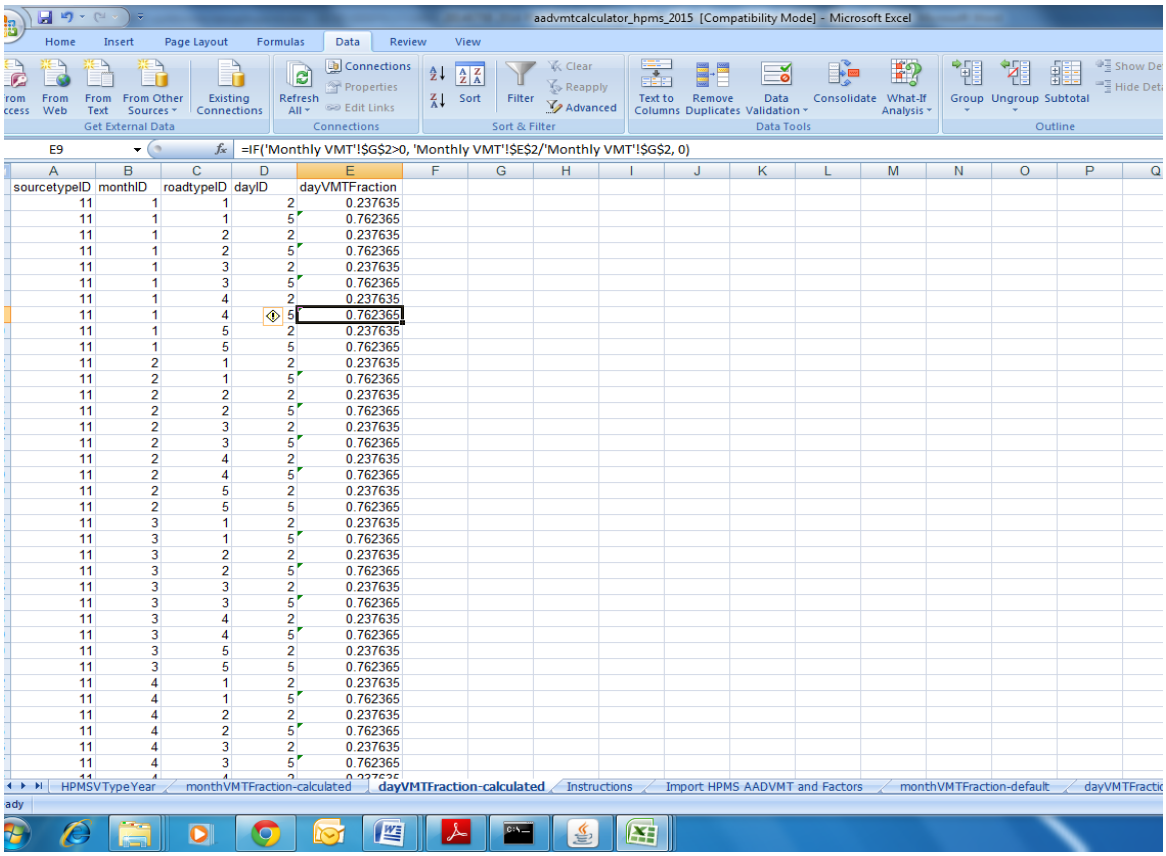
Source type (vehicle type) population is used by MOVES to calculate start and evaporative emissions. Because vehicle population directly determines start and evaporative emission, users must develop local data for this input. If population is not available for a particular source type, users could estimate population for that source type based on the MOVES default split of that source type within the HPMS vehicle class. In the absence of any other source of population data, users could base population estimates on the VMT estimates for a particular source type and the ratio of MOVES default population to VMT by source type. (3.3, technical guide)

Input files will be developed using the most recent available from the month of July SCDMV snapshot of York County vehicle population and the default York County source type population data from the same year, exported from MOVES. For this conformity, analysis, August 1, 2020 data was used. SCDMV data does not provide the detail that would allow vehicles to be assigned to the MOVES vehicle types for this input. For this reason we use the total vehicle population from SCDMV, and use the default distribution from MOVES as needed to assign the vehicles. Motorcycle population from the SCDMV snapshot can be used as is. The total passenger vehicle population from the SCDMV data is distributed among cars and trucks in the same ratio as cars and trucks are distributed in the MOVES default population. Vehicles designated as “trailers” are removed from the SCDMV population total. The remaining vehicles are assigned to the other MOVES categories in the same proportions as they are distributed in MOVES. Currently the ratio of 2020 RFATS population to 2020 York County population is used to apportion vehicles to RFATS. Past vehicle population trends will be applied to future years.



Vehicle Type VMT

VMT data from the Metrolina model and averaged data from three consecutive SCDOT functional class annual reports, years 2011-2013, is used for the VVMT files. The SCDOT functional class annual report data used for this input is sparse and represents the entire state. Based on two three-year averages (2008-2010 and 2011-2013), it seemed apparent that averaging three years was not sufficient to mitigate the variability. At the time of the redesignation request for the 2008 ozone standard, submitted in 2015, the IAC agreed to use the same three-year average for all comparison to the **2008 budgets** (2014 and 2026) for the sake of consistency.



Fuel Formulation and Supply

In general, users should first review the default fuel formulation and fuel supply data, and then make changes only where local volumetric fuel property information is available. The lone exception to this guidance is in the case of RVP where a user should change the value to reflect the regulatory requirements and differences between ethanol- and non-ethanol blended gasolines. (3.9, technical guide)

RVP default changed to required RVP of 9.0.

Meteorology

Local temperature and humidity data are required inputs for SIP and regional conformity analyses with MOVES….MOVES requires a 24-hour temperature and humidity profile to model a full day of emissions on an hourly basis.

For ozone season analysis, users can enter the local average temperature profile (which could be based on average minimum and maximum temperatures) for July, or for the three month period that best represents the area's ozone season (typically June, July and August; or July, August, and September). 4.2, technical guide)

Surface hourly data for the Charlotte International Airport is used. Average hourly temperatures and relative humidity were calculated for the month of July using the years 2004 – 2010.

Road Type Distribution

The road type distribution files represent averaged data from three consecutive SCDOT functional class annual reports, years 2011-2013. The SCDOT functional class annual report data used for this input is sparse and represents the entire state. Based on two three-year averages (2008-2010 and 2011-2013), it seemed apparent that averaging three years was not sufficient to mitigate the variability. At the time of the redesignation request for the 2008 ozone standard, submitted in 2015, the IAC agreed to use the same three-year average for all comparison to the **2008 budgets** (2014 and 2026) for the sake of consistency.

Age Distribution

For SIP and conformity purposes, EPA recommends and encourages states to develop local age distributions. If users are unable to acquire data to develop a local age distribution or have reason to believe that data about locally registered vehicles is not necessarily representative of that entire portion of the fleet then MOVES national default age distributions can be used. (3.4, technical guide)

Defaults are used for age distribution. The South Carolina DMV does not have reliable vehicle age data. There is no VIN decoder available. In addition, most of the heavy-duty diesel traffic traveling through York County on I-77 is not registered in South Carolina, making default data more representative than SCDMV data.

Average Speed Distribution

Average speed files are created using data from the Metrolina model. The model provides VMT and speeds for twelve road types and four time periods (a.m. peak, midday, pm peak and night.) Vehicle hours traveled (VHT) for each Metrolina model road type is calculated, and each Metrolina model road type, for each time of day, is assigned to a speed bin. The fraction of VHT in each speed bin for each MOVES road type is entered into the average speed input file. The same fractions are used for all vehicle types.

Appendix D: Interagency Consultation Meeting Minutes and Agency Comments

Appendix E: Summary of Public Comments

Public comments relating to the 2055 Long Range Transportation Plan are summarized as follows:

- Support for planning consideration of a western bypass to I-77
- Support for the continued availability of the Demand Response service
- Support for strengthen safe pedestrian routes from residential developments to area schools
- Support for improvement network safety and reliability on major corridors
- Emphasis on roadway projects to be multimodal in nature and account for bicycle and pedestrian facilities through design standards for enhancing safety

Appendix F: Federal Register Designation Notice

standard. On May 15, 2014 (79 FR 27830), the EPA proposed to rescind the CDD for the area based on the fact that the area was no longer attaining the 1997 8-hour ozone standard, and the EPA proposed a SIP Call for submittal of a new ozone attainment demonstration for the NY-NJ-CT area for the 1997 ozone NAAQS. As an alternative to submitting a new attainment demonstration for the 1997 ozone NAAQS, the EPA proposed to permit the relevant states to respond to the SIP Call by voluntarily requesting to be reclassified to Moderate for the 2008 ozone standard (*see* CAA section 181(b)(3)) and to prepare SIP revisions demonstrating how they would attain the more stringent 2008 standard as expeditiously as practicable, but no later than the Moderate area attainment date in 2018. The EPA explained in the May 2014 proposal that, because the 2008 standard is more stringent than the 1997 standard, the area would necessarily attain the 1997 standard once the area adopted a control strategy designed to achieve the tighter standard. Moreover, where state planning resources were constrained, those resources were better used focused on attaining the more stringent standard.

In the agency's August 27, 2015, proposal regarding determinations of attainment of the 2008 Marginal ozone areas, the EPA discussed how its proposed actions affected the May 2014 proposed options for responding to a SIP Call for the 1997 8-hour ozone NAAQS. Specifically, the proposed option to permit the relevant states to respond to the final SIP Call by requesting reclassification to Moderate for the 2008 ozone standard [*see* CAA section 181(b)(3)] would consequently require that the states submit SIPs demonstrating how they would attain the more stringent 2008 standard as expeditiously as practicable. We explicitly noted in the August 2015 proposal that, if we were to finalize the determination that the NY-NJ-CT area failed to attain the 2008 ozone NAAQS by the Marginal area attainment date, the area would be reclassified by operation of law, and thus effectively eliminating the need for the three states to voluntarily request reclassification. The area would then be subject to Moderate nonattainment area planning requirements, and the subsequent submission of Moderate area attainment plans for the 2008 ozone standard would necessarily satisfy a final SIP Call for the NY-NJ-CT area on the 1997 ozone standard, because an approvable plan would demonstrate attainment of a more stringent NAAQS. We also noted that either of the proposed 2008 ozone attainment plan due dates would meet the statutory timeframe for the SIP revision due subsequent to a SIP Call for the 1997 ozone NAAQS for the area.

II. Final Actions

The publication of the EPA's proposed rule on August 27, 2015, (80 FR 51992) started a public comment period that ended on September 28, 2015.[5] The comments received during this period may be found in the electronic docket for this action. A majority of commenters supported the EPA's actions as proposed to determine that certain areas attained the 2008 ozone NAAQS by the applicable attainment date, to provide 1-year attainment date extensions to the identified areas, and to reclassify to Moderate the non-attaining areas that do not qualify for an attainment date extension. Additional significant comments pertinent to each proposed action are addressed in the following appropriate sections. Included in the docket for this action is a full summary of significant comments received on the EPA's proposal and our responses to those comments. To access comments and the Response to Comment document, please go to *http://www.regulations.gov* and search for Docket No. EPA–HQ–OAR–2015–0468, or contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

TABLE 4—2008 OZONE MARGINAL NONATTAINMENT AREA FINAL ACTION SUMMARY

Nonattainment area	Determination of attainment by the attainment date	Determination of failure to attain by the attainment date	Extension of the marginal area attainment date to July 20, 2016
Allentown-Bethlehem-Easton, PA	X		
Atlanta, GA		X	
Baton Rouge, LA	X		
Calaveras County, CA	X		
Charlotte-Rock Hill, NC-SC[a]	X		
Chicago-Naperville, IL-IN-WI		X	
Chico (Butte County), CA	X		
Cincinnati, OH-KY-IN	X		
Cleveland-Akron-Lorain, OH			X
Columbus, OH	X		
Denver-Boulder-Greeley-Ft. Collins-Loveland, CO		X	
Dukes County, MA	X		
Greater Connecticut, CT		X	
Houston-Galveston-Brazoria, TX			X
Imperial County, CA		X	
Jamestown, NY	X		
Kern County (Eastern Kern), CA		X	
Knoxville, TN[b]	X		
Lancaster, PA	X		
Mariposa County, CA		X	
Memphis, TN-MS-AR[c]	X		
Nevada County (Western part), CA		X	
New York, N. New Jersey-Long Island, NY-NJ-CT		X	
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			X

[5] The EPA offered to hold a public hearing on the proposed actions, but no one requested such a hearing.

TABLE 4—2008 OZONE MARGINAL NONATTAINMENT AREA FINAL ACTION SUMMARY—Continued

Nonattainment area	Determination of attainment by the attainment date	Determination of failure to attain by the attainment date	Extension of the marginal area attainment date to July 20, 2016
Phoenix-Mesa, AZ		X	
Pittsburgh-Beaver Valley, PA			X
Reading, PA	X		
San Diego County, CA		X	
San Francisco Bay Area, CA	X		
San Luis Obispo (Eastern San Luis Obispo), CA			X
Seaford, DE	X		
Sheboygan County, WI			X
St. Louis-St. Charles-Farmington, MO-IL			X
Tuscan Buttes, CA	X		
Upper Green River Basin Area, WY	X		
Washington, DC-MD-VA			X

[a] On July 28, 2015, the EPA redesignated to attainment the North Carolina portion of the Charlotte-Rock Hill, NC-SC, nonattainment area for the 2008 8-hour ozone NAAQS, effective August 27, 2015. *See* 80 FR 44873. On December 11, 2015, the EPA redesignated to attainment the South Carolina portion of the Charlotte-Rock Hill, NC-SC, nonattainment area for the 2008 8-hour ozone NAAQS, effective January 11, 2016. *See* 80 FR 76865. The EPA is herein determining that this area attained the 2008 ozone NAAQS by the applicable attainment date in order to satisfy the agency's obligation under CAA section 181(b)(2)(A).

[b] On July 13, 2015, the EPA redesignated to attainment the Knoxville, TN, nonattainment area for the 2008 8-hour ozone NAAQS, effective August 12, 2015. *See* 80 FR 39970. Given that this area was still designated nonattainment as of July 20, 2015, the EPA is herein determining that this area attained the 2008 ozone NAAQS by the applicable attainment date in order to satisfy the agency's obligation under CAA section 181(b)(2)(A).

[c] On February 10, 2016, the EPA proposed to redesignate to attainment the Arkansas portion of the Memphis, TN-MS-AR, nonattainment area for the 2008 8-hour ozone NAAQS. *See* 81 FR 7046. On February 11, 2016, the EPA proposed to redesignate to attainment the Mississippi portion of the Memphis, TN-MS-AR, nonattainment area for the 2008 8-hour ozone NAAQS. *See* 81 FR 7269.

A. Determinations of Attainment

Pursuant to section 181(b)(2)(A) of the CAA and 40 CFR 51.1103, the EPA is making a final determination that the 17 Marginal nonattainment areas listed in Table 1 attained the 2008 ozone NAAQS by the applicable attainment date of July 20, 2105. We received no adverse comments on this proposal.

Once effective, this action satisfies the EPA's obligation pursuant to CAA section 181(b)(2)(A) to determine, based on an area's air quality as of the attainment date, whether the area attained the standard by that date. The effect of a final determination of attainment by the area's attainment date is to discharge the EPA's obligation under CAA section 181(b)(2)(A), and to establish that, in accordance with CAA section 181(b)(2)(A), the areas will not be reclassified for failure to attain by the applicable attainment date. These determinations of attainment do not constitute a redesignation to attainment. Redesignations require states to meet a number of additional statutory criteria, including the EPA approval of a state plan demonstrating maintenance of the air quality standard for 10 years after redesignation. As for all NAAQS, the EPA is committed to working with states that choose to submit redesignation requests for the 2008 ozone NAAQS.

B. Extensions of Marginal Area Attainment Dates

Pursuant to CAA section 181(a)(5), the EPA is making a final determination to grant 1-year attainment date extensions of the applicable attainment date from July 20, 2015, to July 20, 2016, for the 8 Marginal nonattainment areas listed in Table 2. The EPA received a number of comments on its proposal to extend the Marginal area attainment dates for the areas listed in Table 2. We summarize and respond to some of the key comments. The docket for this action contains a more detailed Response to Comment document.

Comment: One commenter claimed that the EPA's proposed 1-year extension of the attainment date for the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE area is unlawful and arbitrary because the state of Delaware did not request an extension of the attainment date. The commenter argued that granting an attainment date extension to a multi-state area when all states have not requested the extension is inconsistent with the EPA's failure to grant the state of New York's most recent voluntary reclassification request with regard to the 1997 8-hour ozone NAAQS.[6] The commenter stated that there, the EPA refused to grant New York's request because the agency's position was that voluntarily reclassifying the area required all states with jurisdiction over the multi-state area to request the reclassification. The commenter noted that in that case the EPA interpreted CAA section 182(j)(1) "to require coordination and unanimity among the affected states," and the commenter stated that the provision "seemingly has equal bearing" on a request to extend the attainment date.

Response: The EPA disagrees with the commenter that a request for voluntary reclassification under CAA section 181(b)(3) and a request for an extension of the attainment date under CAA section 181(a)(5) both require "unanimity" among the affected states. The EPA also does not agree that granting an extension of the attainment date to all states with jurisdiction over the Philadelphia multi-state nonattainment area is inconsistent with its prior reading of CAA section 182(j)(1).

The statutory provisions governing voluntary reclassifications and requests for 1-year attainment date extensions differ in key respects regarding the question of whether all states in a nonattainment area need to request the action before the EPA may grant such requests. CAA section 181(b)(3), which governs voluntary reclassifications, states that "the Administrator shall grant the request of any State to reclassify a nonattainment area *in that State* [in accordance with the area's

[6] Letter from Joseph J. Martens, Commissioner, New York Department of Environmental Conservation, addressed to the EPA Administrator Lisa Jackson. June 20, 2012.

Appendix G: Vehicle Type VMT

Vehicle Type VMT

Daily weekday VMT and speed data was obtained from the Charlotte Department of Transportation (CDOT), which is the lead agency for maintaining the Metrolina Travel Demand Model (see Table 1). The CDOT data was used to compile the average daily VMT by MOVES2014 road type. VMT was distributed to the MOVES2014 source types. Because SCDOT collects limited functional class data, and the data varies considerably from year to year, data from the three most recent years was averaged to inform the development of VMT fractions to be applied to each MOVES source type. To convert the daily VMT data to an annual value, which is required by MOVES2014, the EPA's aadvmt-converter-tool-moves2014.xlsx VMT converter tool was used. This tool used default monthly, daily, and hourly ratios to create an annual VMT profile from an average daily profile. The resulting files (filenames HPMSVTypeYear-calc, monthVMTFraction-calc, dayVMTFraction-calc, and hourVMTFraction-calc) were exported from the converter tool and used in the MOVES2014 modeling.

Table 1: York County Nonattainment Area VMT and Speed Data Provided by the Charlotte Department of Transportation (Future Years)

2025	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	285,298	50.6	354,146	66.0	275,849	55.3	239,723	65.6
Rural Principal Art.	30,589	37.1	39,609	54.8	31,657	39.2	22,609	57.9
Rural Minor Art.	83,446	29.0	90,878	37.6	83,433	27.7	67,770	39.5
Rural Major Collect.	82,493	35.4	94,440	43.3	83,044	36.0	66,349	44.5
Rural Minor Collect.	8,710	11.2	10,875	18.6	8,670	12.8	7,484	22.4
Rural Local	118,239	25.8	147,883	26.4	125,331	25.8	103,950	26.6
Urban Interstate	246,771	51.2	303,865	62.2	240,345	56.1	216,430	62.3
Urban Frwy/Exprwy	16,163	40.2	17,997	39.8	16,963	40.4	13,307	39.8
Urban Principal Art.	251,907	28.2	303,504	35.4	260,023	28.2	226,282	37.0
Urban Minor Art.	183,797	27.7	222,682	34.6	193,578	27.2	162,631	36.2
Urban Collector	79,511	22.6	91,146	26.7	82,971	18.1	65,270	28.1
Urban Local	156,043	24.4	221,454	24.9	174,122	24.5	153,613	25.1
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	608,774	35.7	737,832	43.7	607,984	36.5	507,885	44.2
Urban	934,194	30.4	1,160,648	35.5	968,003	29.6	837,532	36.7
County	1,542,968	32.3	1,898,479	38.3	1,575,987	31.9	1,345,417	39.2

2026	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	285,908	50.6	360,777	66.0	278,918	54.9	241,383	65.6
Rural Principal Art.	31,427	36.1	40,756	54.1	32,096	38.3	22,311	57.8
Rural Minor Art.	85,046	28.5	91,591	37.2	85,036	27.3	69,579	39.5
Rural Major Collect.	83,681	35.7	96,411	43.2	84,067	36.2	67,378	44.5
Rural Minor Collect.	8,890	11.4	11,161	18.6	8,769	12.6	7,617	22.4
Rural Local	121,542	25.8	151,031	26.4	128,313	25.8	107,092	26.6
Urban Interstate	248,166	51.1	308,798	62.2	243,367	56.0	218,494	62.3
Urban Frwy/Exprwy	16,197	40.2	18,290	39.9	17,191	40.4	13,448	39.8
Urban Principal Art.	255,455	27.8	308,029	35.3	263,289	28.2	230,565	36.9
Urban Minor Art.	186,649	27.5	225,052	34.4	195,796	27.2	165,740	36.1
Urban Collector	80,664	22.4	92,107	26.5	84,142	18.0	66,009	28.1
Urban Local	159,129	24.4	224,529	24.9	176,719	24.5	156,974	25.1
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	616,495	35.5	751,726	43.6	617,198	36.3	515,361	44.0
Urban	946,261	30.2	1,176,804	35.5	980,505	29.6	851,229	36.6
County	1,562,755	32.1	1,928,531	38.2	1,597,703	31.8	1,366,590	39.1

2035	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	297,404	56.2	378,819	65.9	290,629	53.5	256,859	65.7
Rural Principal Art.	32,908	30.8	42,793	49.4	33,377	32.3	25,974	54.4
Rural Minor Art.	91,601	28.5	102,428	37.3	95,488	27.4	75,566	39.3
Rural Major Collect.	97,280	33.4	112,628	41.1	98,090	33.6	77,606	43.7
Rural Minor Collect.	10,092	14.9	12,962	18.9	10,516	14.0	8,722	22.8
Rural Local	147,328	25.7	182,786	26.5	158,329	25.7	128,072	26.6
Urban Interstate	262,039	53.0	324,423	62.2	251,197	57.1	236,535	62.3
Urban Frwy/Exprwy	17,588	40.2	19,325	39.9	18,103	40.2	14,374	39.8
Urban Principal Art.	284,951	27.5	349,889	34.7	299,788	26.4	263,745	36.8
Urban Minor Art.	215,534	27.0	262,971	34.7	229,803	27.3	185,974	36.4
Urban Collector	92,125	24.2	105,809	27.7	96,276	20.1	73,442	29.1
Urban Local	180,456	24.3	255,103	24.9	202,616	24.5	175,825	25.2
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	676,612	35.8	832,415	42.3	686,429	34.7	572,798	43.1
Urban	1,052,693	30.1	1,317,521	35.2	1,097,783	29.1	949,896	36.6
County	1,729,305	32.1	2,149,936	37.6	1,784,213	31.0	1,522,694	38.8

2036	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	300,714	56.0	383,963	65.8	291,405	53.2	259,465	65.7
Rural Principal Art.	33,785	30.1	43,485	48.9	33,668	31.6	26,658	54.3
Rural Minor Art.	91,918	28.1	104,404	37.1	94,472	27.6	77,162	39.3
Rural Major Collect.	98,519	33.4	114,329	41.0	98,173	33.2	80,209	43.6
Rural Minor Collect.	10,278	14.9	12,898	18.9	10,502	14.0	8,993	23.0
Rural Local	152,342	25.6	187,654	26.5	160,406	25.6	131,110	26.7
Urban Interstate	265,181	53.0	328,694	62.0	251,720	57.1	238,882	62.3
Urban Frwy/Exprwy	17,756	40.2	19,336	39.9	17,935	40.2	14,414	39.8
Urban Principal Art.	287,596	27.2	353,716	34.4	300,657	26.2	266,963	36.7
Urban Minor Art.	218,698	26.9	266,064	34.5	230,558	27.2	189,199	36.4
Urban Collector	93,982	24.1	107,829	27.6	96,763	20.2	75,382	29.1
Urban Local	183,368	24.2	257,506	24.9	204,103	24.5	178,555	25.2
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	687,555	35.5	846,733	42.1	688,626	34.6	583,595	43.1
Urban	1,066,580	29.9	1,333,145	35.1	1,101,735	29.0	963,396	36.5
County	1,754,135	31.9	2,179,878	37.5	1,790,362	30.9	1,546,991	38.8

2045	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	324,817	50.2	442,424	64.4	313,812	47.6	292,986	65.7
Rural Principal Art.	36,464	23.9	50,216	43.3	37,879	22.9	31,220	53.6
Rural Minor Art.	96,611	26.8	112,494	36.1	99,205	25.6	82,332	38.7
Rural Major Collect.	111,609	31.0	130,827	39.7	112,744	30.4	92,054	42.9
Rural Minor Collect.	11,816	15.0	14,524	19.0	11,310	13.8	10,158	22.5
Rural Local	177,129	25.4	219,748	26.5	188,626	25.1	152,490	26.7
Urban Interstate	284,626	48.7	375,680	61.6	269,828	54.8	266,657	62.1
Urban Frwy/Exprwy	19,864	40.1	21,056	39.9	20,085	40.2	15,592	39.8
Urban Principal Art.	309,384	25.1	389,597	33.0	323,472	23.4	294,048	36.0
Urban Minor Art.	238,422	25.5	293,325	33.3	252,590	24.7	208,395	36.0
Urban Collector	103,125	22.8	121,229	26.9	109,384	19.4	83,846	28.8
Urban Local	204,793	24.0	287,252	24.8	228,829	24.3	198,820	25.2
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	758,447	33.0	970,233	41.3	763,577	31.6	661,239	42.7
Urban	1,160,214	28.2	1,488,141	34.3	1,204,190	27.0	1,067,359	36.2
County	1,918,661	30.0	2,458,373	36.8	1,967,766	28.6	1,728,598	38.5

2055	AM Peak		Midday		PM Peak		Night	
York (NA part)	VMT	Spd	VMT	Spd	VMT	Spd	VMT	Spd
Rural Interstate	343,386	43.9	483,243	60.6	327,726	46.2	320,796	65.9
Rural Principal Art.	40,290	20.1	58,472	37.4	40,234	19.1	36,758	52.0
Rural Minor Art.	102,650	24.5	125,581	34.1	104,170	23.1	89,416	38.4
Rural Major Collect.	125,457	29.0	155,512	37.8	126,314	28.9	107,060	42.2
Rural Minor Collect.	13,418	14.1	16,665	17.8	12,799	13.6	11,553	22.2
Rural Local	209,321	25.2	263,179	26.4	219,688	24.8	178,410	26.8
Urban Interstate	297,080	48.2	400,092	61.0	278,891	54.3	287,518	62.0
Urban Frwy/Exprwy	21,545	40.1	23,488	39.9	22,274	40.1	16,507	39.8
Urban Principal Art.	331,926	23.0	434,757	30.7	343,250	21.4	325,706	35.0
Urban Minor Art.	261,257	24.0	332,834	31.5	274,161	23.1	233,497	35.5
Urban Collector	116,249	21.2	139,760	26.0	125,264	18.7	94,935	28.4
Urban Local	228,776	23.6	321,256	24.7	257,397	24.1	222,776	25.1
Urban HOV	0	0.0	0	0.0	0	0.0	0	0.0
Rural	834,522	30.2	1,102,652	39.1	830,931	29.8	743,994	42.2
Urban	1,256,833	26.6	1,652,188	32.9	1,301,236	25.5	1,180,939	35.7
County	2,091,355	28.0	2,754,840	35.1	2,132,167	27.0	1,924,933	37.9